CLAIMS

What is claimed is:

1. A gasket having an integrated sensor for a fuel cell, comprising:

a gasket having an exterior surface;

a sensor coupled to the exterior surface of the gasket and protruding outwardly therefrom, the sensor being comprised of a conductor disposed on at least one dielectric layer.

2. The gasket of claim 1 wherein the gasket having a planar form with a top surface, a bottom surface and a side perimeter surface, such that the sensor is coupled to at least one of the top surface and the bottom surface of the gasket and protrudes in a direction substantially planar to the top surface of the gasket.

3. The gasket of claim 1 wherein the sensor is coupled to the gasket by an adhesive.

4. The gasket of claim 1 wherein the conductor is sandwiched between two dielectric films.

5. The gasket of claim 1 wherein the conductor projects out from the two dielectric films at a location distal from where the sensor couples to the gasket, thereby forming a connection terminal for the sensor.

6. The gasket of claim 4 wherein the two dielectric films are bonded to the conductor by at least one of vibration welding, friction welding, heat staking and through a pressure sensitive adhesive.

7. The gasket of claim 1 wherein the conductor is comprised of a material selected from the group consisting of carbon, gold and copper.

8. The gasket of claim 1 wherein the dielectric layer is comprised of a material selected from the group consisting of polyester, polyimide, polyetherimide, and polyethylene napthalate.

9. The gasket of claim 1 wherein the gasket is configured to mount against an ion-conducting, electrolyte membrane of the fuel cell.

10. A gasket having an integrated sensor for a fuel cell, comprising:

a gasket having a planar form with a top surface, a bottom surface and a side perimeter surface, the gasket further including a protruding portion extending outwardly in a direction substantially planar to the top surface of the gasket; and

a sensor formed on the protruding portion of the gasket.

11. The gasket of claim 10 wherein the sensor is comprised of a conductor formed on protruding portion of the gasket.

12. The gasket of claim 10 wherein the conductor is sandwiched between two dielectric films and projects out from the two dielectric films at a location distal from where the protruding portion extends from the remander of the gasket, thereby forming a connection terminal for the sensor.

13. The gasket of claim 12 wherein the two dielectric films are bonded to the conductor by at least one of vibration welding, friction welding, heat staking, and through a pressure sensitive adhesive.

14. The gasket of claim 10 wherein the conductor is comprised of a material selected from the group consisting of carbon, gold and copper.

15. The gasket of claim 10 is comprised of a material selected from the group consisting of polyester, polyimide, polyetherimide, and polyethylene napthalate.

16. The gasket of claim 10 wherein the gasket is configured to mount against an ion-conducting, electrolyte membrane of the fuel cell.